

ABSTRACT OF THE DISCLOSURE

A confinement device for operative arrangement within a substrate etching chamber, having a lower surface of the device generally arranged over a substrate outer top surface such that a gap-spacing therebetween is generally equidistant. This spacing is less than a sheath thickness for the plasma, preferably less than $1/3^{\text{rd}}$ of an inner width of an aperture through the lower surface of the device. The aperture, sized preferably greater than 3 times the sheath thickness, is in communication with a channel of the device in which an etchant gas can be confined for reaction to selectively etch a localized area in the substrate outer top surface generally below the aperture. A system for dry etching an IC wafer includes a substrate etching chamber and a confinement device. The etchant gas may be a plasma induced and sustained by RF energy, a microwave source, or other source, as designed. And, a method is included for selectively etching a localized area in a substrate outer top surface, having the steps of: arranging a lower surface of a confinement device over the outer top surface, leaving a spacing therebetween, so that an aperture through said lower surface is located generally above the localized area (the spacing may cover the whole of the outer top surface, an area on which microcircuits are fabricated, or some other portion of the outer top surface); and providing an etchant gas to a channel in the device that is in communication with the aperture.

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